

October 1992

approach

The Naval Aviation Safety Review





From the Commander:



COMMANDER
NAVAL SAFETY CENTER

Just a note to say hello and let you know I'm in the saddle, having relieved RAdm. Finney on 30 July.

Unfortunately, I'm off to an inauspicious start. On 30 July, we lost three shipmates who were attempting to perform PMS on a fixed CO₂ system in a confined space. On 2 August, a malfunctioning electrical appliance caused a serious fire in my quarters. No injuries, thank goodness.

Smoke alarms, work if the batteries are good.

In the month since my arrival, more serious mishaps have occurred. Eight class A mishaps have destroyed seven aircraft and killed 13 squadronmates. We lost eight more in motor vehicle mishaps.

Those numbers have my attention; I hope they have yours.

In a recent mishap, the "best" pilot in the squadron broke the rules. He flew too low on a familiar low level. He and his jet were shattered on the wall of a cliff. How many of his peers had seen him break the rules before and failed to act? Another recent fatality occurred because a WSO was not strapped into an ejection seat. Had he done this before? Did anyone notice? Reporting serious violations to the chain of command is loyalty, not squealing.

Think about it!

We must be passionate about safety. The skipper leads the way, but we all have vital roles. Walking past a hazard, or overlooking an unsafe act is the worst thing we can do. Failure to act — the sin of omission — is unforgivable.

I am proud to be part of the safety team. Let's work together to improve the process and preserve lives and assets.

"Guido"

A. A. GRANUZZO
Rear Admiral, U.S. Navy

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INCORRECT VOLUME NUMBER, SHOULD READ 37.

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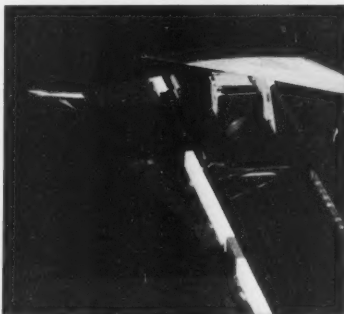
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On the cover: AV-8Bs of VMA-331 on board
USS Nassau (LHA-4)
(Photo by Maj. Joe Doyle, USMC)

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RAdm. A.A. Granuzzo, Commander, Naval Safety Center
William J. Mooberry, Executive Director
Col. W.W. Scheffler, USMC, Director, Aviation Safety Programs
Cdr. John H. Christman, Head, Media and Education Support
Lt. Steve Halsted, Editor
Peter Mersky, Asst. Editor

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10piess Tomcat at 29,000 Feet

By LCdr. Joe Edwards
and
LCdr. Scott Grundmeier

An explosion, deafening wind noise and complete sensory overload. Nothing else in the world existed at that moment.

- Airspeed 350 KIAS,
- 0.88 IMN,
- Altitude 27,500 feet,
- VDI 80 degrees AOB,
- 10 degrees nose down.



RIO: What a clear beautiful day today. Haven't seen it this nice in a long time. Now if I can only get this radar picture a little clearer. I'd like to get a closer look at that probable commercial air traffic. Lean in a bit so I can see the display. That's better...

What the...? Never heard such a loud sound before. Something just brushed by the right side of my neck. Wind blast! Deafening roar. Can't hear anything. Max confusion. Adrenalin rush.

Pilot: We're still flying. What happened to the canopy? My right shoulder hurts, and there's no canopy plexiglas left in the canopy clamshell. The forward windscreens are severely cracked or broken. Idle power, speed brakes to slow us in preparation for ejection.

Time for a peek up forward. Hope I don't get my face ripped off in the windblast.

300 KIAS. No sign of Grundy in back. Aft stick, left stick, right, left, rudder. The airplane is still responding to control inputs.

Boost the canopy closed, command eject—still in MCO, no fire lights, hydraulics OK. Still no sign of Grundy in the mirrors. He must be unconscious—or worse. I'll safe my face curtain so it's not pulled out by the windblast... whoa! That 300-knot windblast is not going to help my good arm. Boldface procedures complete. Let's continue this

descent and turn toward Ike.

RIO: OK, think. The canopy must have come off. A glance up to confirm it. Nope, my portion of the canopy is still here but the front part is gone. Smashed? Still deafening.

Altitude 26,500 feet, airspeed 350 knots, fuel state 13,900 pounds. Gotta lower the seat and get out of the windblast.

"Reb, have you got it?" No response. "Reb, have you got the jet?"

It was a bright sunny afternoon in the central Arabian Gulf. We had manned up Dakota 205 for a PMCF "C" on one of only three events of the day. Two squadron aircraft were launching, the other flown by the Skipper. To get some training out of the hop, we had briefed an intercept as the CO came inbound to the ship on the high altitude, supersonic dash portion of his PMCF "B".

We had flown together for several months in our first squadron, VF-143, and attended USNA, both graduating in 1980. We were good friends looking forward to an enjoyable flight.

Seat is down, hand is on the ejection handle, altitude 24,500 feet. Airspeed still hovering around 350. We're still in the ejection envelope, but for how long? Is the pilot flying this thing or is it flying him? I'll leave it in RIO-command-eject just in case I have to get us out. Gotta talk to Reb.

"Reb, how do you hear me?"

Nothing. Try the ship! Can't get the foot pedal to work. How did my kneeboard get down there?

"Strike, Dakota 205, how do you read?" No one's talking today.

Time for a peek up forward. Hope I don't get my face ripped off in the windblast. It's not too bad. See more damage though. All the forward windscreen and quarter panels are missing or smashed. What's Reb doing? Altitude is still above 20,000 feet, airspeed 300 KIAS. We seem to be in a descending spiral. I'll keep my hand on the handle. Is he really flying the jet? His head's moving. He's scanning the horizon. OK, he's flying the jet.

Pilot: Twenty thousand feet, 250 KIAS, keep it coming down—not quite that much. I have to keep us as slow as possible. Finally! The windblast isn't too bad at 200 KIAS and my vision should start improving now that it has died down some. Besides, they flew at these speeds in open cockpits in World War I, right? Still, keep the attitude adjustments small in case we lose the flight controls if the jet continues to come apart. Quick trouble shooting... explosion, canopy glass gone. Look at that windscreen! No angle of attack. What could cause an explosion that would destroy the canopy like this? I've got no idea, but the loss of the AOA probe means at least one FODed motor. I'll bet both of them took some hits. Gotta love the F110s, though; they are still chugging along with no fluctuations in the engine instruments.

RIO: We're still descending nicely. The boldface says to safe the upper ejection handle. To prevent inadvertent ejection from the wind blast. Right hand up along the side of the headrest and push the tab. Got it. I'll leave it in MCO. Turn off the radar. I don't need it and might just damage it without proper air conditioning. It's getting a bit chilly now. I wonder if Reb can talk to the ship? I can see his face in the front mirrors now. He doesn't look pretty.

Pilot: OK, let's assess what we've got here. That dull pain in my right shoulder is not very pleasant. Pretty painful to do much of anything but move the stick. Eyesight is cloudy, wipe some of this out of my... great! Glass and blood. Should we divert? Bahrain is over 100 miles away and we are NORDO. Still no response from my mayday call. We've got plenty of gas—12,300 pounds. Let's get to a lower altitude and see if this thing is flyable in the approach configuration before we decide. We may have to eject alongside the ship. Better tighten up

these lap restraints with my left hand.

RIO: Aviate, navigate, communicate. We're 30 miles north of the ship. Reb appears to be heading us back to Ike. I can't do much more for now in the aviate department. We're still spiralling down, which is good for now. I'll try to communicate again.

"Strike, Dakota 205." I can't hear a thing over the roar. Switch radio frequencies to the tower. Still nothing. Get the emergency IFF squawk on.

The radome had ripped off the aircraft at approximately 29,000 feet in a right hand turn, slightly nose low at 4G. It had rotated on the hinge at the top, had come over the top of the airplane and had hit the canopy, shattering all the glass in the forward half of the clamshell and severely damaging the forward windscreens. It knocked the center rear-view mirror off, which hit the pilot's oxygen mask and helmet, tearing the hose from the mask and destroying the right mask-attachment fitting.

The radome had then hit the pilot's right koch fitting breaking his clavicle. The remains of the radome and radar had passed down the spine of the Tomcat and through the twin tails. Debris had flown into the rear cockpit, causing minor abrasions to the RIO's neck with pieces imbedding themselves in the headrest of the rear ejection seat.

Unfortunately, the pilot had raised his visor a few seconds before the impact to clear the area of other aircraft before commencing the reattack. The radome

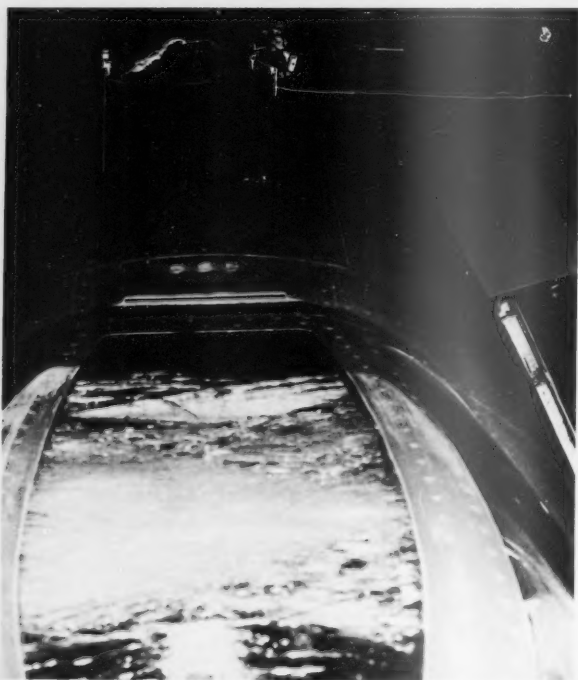
We may have to eject alongside the ship. Better tighten up these lap restraints with my left hand.

had actually separated from the jet as he had raised his hand to lower the visor. His first indication of injury was the red sticky substance on the inside of his visor as he raised it just after the "explosion".

Pilot: The airplane is actually flying fairly well. Let's put some of that TPS training to work and see if we can sort this thing out. I wonder how Grundy's doing? Still no sign of movement back there. 12,000 feet...let's decel—slowly—and dirty up. Will the gear come down? If I have to blow it down I may have to decide to divert because I won't be able to raise it again. Three down and locked—amazing.

How about the flaps? Incredible! Fully down, no split flaps, all spoilers working normally. What are the chances that DLC will work? I can't believe it! Things are beginning to look up, but can I fly the ball? My vision is still not great. Let's see... left eye is pretty good, the right eye—uh, oh, I can't see anything out of it. Surely that can't be. Yep, no vision in the right eye. Let's get a close look in the mirror... great! A piece of glass protruding from my eye! I guess I can close out my logbook for good after this flight. Can I recover this airplane with only one eye?

RIO: Headed back to the ship, but still descending. Prepare for ejection if Reb doesn't level off soon. OK,



The radome had then hit the pilot's right koch fitting breaking his clavicle.

nose is coming up. Looking good. I can breathe again. Fuel state still looks good. He changed his radio to the tower also! Feeling better about this. There's lots of blood on Reb's face. He's gonna need medics as soon as we get this thing on the deck.

The pilot had several cuts on his face, glass in both eyes and quite a bit of pain in the right eye each time he blinked. Actually, there were no large pieces of glass in his eye; the cornea had been lacerated by the debris and the iris had prolapsed, which caused it to cover his pupil. More accurately, the iris stretched until he had no pupil.

Both crewman were surprised that the airplane transitioned to the approach configuration normally. The

RIO remained prepared for a quick ejection. His ability to see gear and flap indications in the front seat was limited by the effects of windblast. He had to listen and "feel" the gear and flaps coming down.

The pilot was not willing to attempt a no-flap CV approach and fully expected to eject because of a flight control malfunction as he dropped the gear and flaps. Continuing to troubleshoot, the crew could not understand what emergency would cause an explosion that left most of the airplane intact but destroyed the canopy.

Pilot: The jet's still flying well. I can't trim it up hands off, but controllability is good. Let's slow up to on-speed...great; the airspeed indicator is bouncing between 30 and 160 KIAS. I guess there is some damage to that probe, too. Well, I know how much power we need to maintain on-speed. I'll set 4,200 pounds per side and see what that gives us. On second thought, make it 4,800 pounds per side to give us a little gravy. Quick call to the ship. Still no answer. Wonder why? No wonder, my oxygen hose and electrical connections are sitting in my lap. Could I hook them up? I need two hands. I'm at 3,000 feet and I can't trim this thing up hands off. This approach will have to be NORDO.

RIO: Things are slowing down now. Have I covered all my responsibilities? I've gotta make sure everything is taken care of. Double-check the instruments. I hope Reb's OK. He's flying the jet well. Take it one minute at a time.

Pilot: I'm near on-speed now. Longitudinal trim is about right, power is set and it flies pretty nicely. Let's start a descent. We're about 10 miles out. Can I make large enough control inputs with this shoulder to wave off? Yep.



I need to choose between a bingo or CV recovery. NORDO, blind right eye, injured shoulder, no canopy, no airspeed, no AOA. Not the best of situations to come aboard the boat. On the other hand, I probably have two FODed engines, an unconscious RIO, I'm NORDO with more than 120 miles of water to cross and land at a civilian field with unknown damage to the airplane, unknown medical facilities and no way to get a visual inspection or communicate with anyone who joins us.

Will the airplane make it that far? Fortunately, I have more than 12,000 pounds of fuel with a max trap of 8,000 pounds. I could get a couple looks at the deck and still bingo at low altitude with plenty of fuel.

Actually, the condition of the airplane would have surprised the pilot at this point. He was fairly sure that the RIO was seriously injured. He had not seen the command eject window go from MCO to pilot as required in the boldface procedures for loss of

canopy. He also had seen no movement in the back seat, just two sets of straps fully extended from the inertia reels.

The RIO's injuries were insignificant; he had been leaning forward to see the radar scope and most of the debris had missed him.

Amazingly, neither engine was FODed. By this time the ship had seen the emergency IFF signal from the stricken Tomcat and was trying to communicate with Dakota 205. They vectored the skipper toward 205 but time did not allow for a rendezvous.

The pilot concluded that he could fly the approach only with very small corrections. Since the crew had no airspeed or AOA, the pilot had to reference his power setting, longitudinal trim and stick force to maintain on-speed. Even with as coarse a gauge as the F-14's, longitudinal trim is not a bad indicator of AOA at a constant gross weight with wings level.

The pilot's normal habit pattern was to reference

power setting to establish the aircraft on glidepath and on-speed. He set 3,400 pounds per side, which was approximately 100 pounds per side greater than required at max trap in the aircraft's current configuration. However, the corrections required from even moderate deviations during the approach would force him to start the approach again, because he had no way to close the loop and reestablish on-speed AOA once he had deviated.

Pilot: We've got to let the ship know we're out here. A dirty pass at 300 feet up the left side of the ship should do it. Let's just hope they see that my canopy glass is missing. Rock the wings, cycle the throttles, try to tell them we're NORDO. Turn downwind. I can't see anyone on the platform. Dump a little fuel, re-check that landing checklist. Three miles. it's time to turn to the final bearing. The ship is turning into the wind! Looks like they'll give us a shot. Tough to maintain lineup with it in a turn.

RIO: There's the ship. I've never wanted to be on the Ike so bad in my life. Altitude 1,000 feet, airspeed fluctuating wildly around 200 knots. Something appears to be wrong with the indicator. Reb has dumped down to 8,500 pounds. I guess this is it. We're passing down the side of the ship. Is Reb talking to the tower? The noise seems to have lessened a little at the slower airspeed.

Was that paddles on the radio? Maybe if I squeeze the sides of my helmet I'll be able to hear better. Yes!

"Paddles, Dakota 205."

"This is paddles. Go ahead 205."

The ship knew something was wrong with Dakota 205. The aircraft was squawking emergency and flight deck personnel saw the plane make a low flyby. The ship immediately began to clear the deck and prepare for an emergency landing. No one on deck could see the missing canopy glass but they did see that the radome was gone. They knew the aircraft was in trouble and wanted to land ASAP.

LSOs were called to the platform, aircraft cleared from the landing area.

RIO: I explain the situation to the LSOs. We've lost the front part of the canopy. Visibility out the front is limited and my pilot appears to have lost all communications. This ain't sounding good. Gonna be hard to land.

"Tower, 205, request medical personnel to stand by on the flight deck."

"Roger, 205."

Try to get Reb's attention. Stick my hand in the wind blast. Not bad. I wave at Reb. He still doesn't see me. The LSOs say the deck will be ready shortly.

"205, Paddles, how's your airspeed?" Now why would they ask about the fluctuating airspeed? Airspeed jumping around 80 or 90 knots. We turn downwind.

The deck is ready for us. I've gotta tell Reb. Maybe if I point at the ship. He sees me in the mirror! A thumbs up. Now what is he trying to tell me? He's making a T with his two index fingers. He must mean Trap. Is the gear down? It feels like it. I peek over the console into the pilot's cockpit to confirm it. Hook is down. The wind blast isn't so bad at this airspeed. OK, Reb, it's up to you.

Although we had our share of misfortune on this flight, we were extremely fortunate on several counts. The airplane was still flyable. We learned later from the helo buds that there were max sharks and sea snakes in the water that afternoon. The ship was absolutely predictable throughout. We flew two invaluable approaches as Ike turned into the wind allowing us to fine-tune techniques used in all those FCLP emergency practice periods. Those late afternoon simulator hops before cruise were a great help.

The pilot used both HUD and VDI SPN-41 needles at different times in the approach to give him the best opportunity to see the landing area through the remnants of the windscreen.

The lens came on during the third and last pass. This was also about the

time the crew was able to communicate to each for the first time using hand signals. They passed to each other that it was time to land and that each was ready.

After landing, the crew exited the aircraft with the help of a pretty wide-eyed flight-deck crew. The pilot was medevaced to the International Hospital in Bahrain where a civilian doctor sewed up the 3mm cut in his eye with six stitches. The RIO received a bottle of aftershave lotion to soothe the glass cuts on his neck.

Following treatment at Portsmouth Naval Hospital, LCdr. Edwards was pronounced "med-up" (four months after the mishap) and manned up Dakota 205 with LCdr. Grundmeier to "complete" the PMCF 19 weeks after "Black Thursday". —Ed.

LCdr. Edwards and LCdr. Grundmeier are an F-14 pilot and RIO, respectively, with VF-142. They received DFCs for the mission described in this story.

..great! A piece of glass protruding from my eye! I guess I can close out my logbook for good after this flight. Can I recover this airplane with only one eye?

Will Your Friends Tell You

What You Don't Want to Know?

By LCdr. Rod Baker

Which of my friends is most likely to make a fatal mistake in the air? Which person would I have the least confidence in if I was leading or following them into combat? Who would I recommend change their career? Most of us have asked ourselves these questions.

There are few easy ways to communicate these feelings of disquiet, because sometimes it's hard to tell why you feel that way. They have exhibited unsettling characteristics, tendencies and attitudes. Something makes them the kind of person you would hate to lend

your new Corvette to, the kind you think just might get bored and do something stupid.

You may ask yourself: Do you owe it to anyone to share this feeling? Does speaking your mind jeopardize that pilot's reputation needlessly? Is it unfair to that person?

As a department head, I had an opportunity to express my feelings about younger pilots as their names came before the board for mission qualification. That was a formal way to voice my opinion. Evaluating my peers, the more senior pilots, was more difficult.

One thing is certain: the

safety officer and the commanding officer must ensure that aircrew, regardless of rank or status, can freely express their feelings about their squadronmate's conduct in the air. The chain of command must treat the source of such information with discretion.

The aircrew involved may have their egos damaged and their feelings hurt. However, I would rather someone tell me I'm on the road to disaster, than say "I thought he might do that" after I'm not around to have my feelings hurt. ◀

LCdr. Baker is the Aviation Safety Officer at NADEP Alameda.

Mentally Obscured at One-Half 8 Mile

By Lt. Jay Bynum

I had always considered myself a conservative aviator. "That couldn't happen to me," I'd say, or, "I'd never do anything like that."

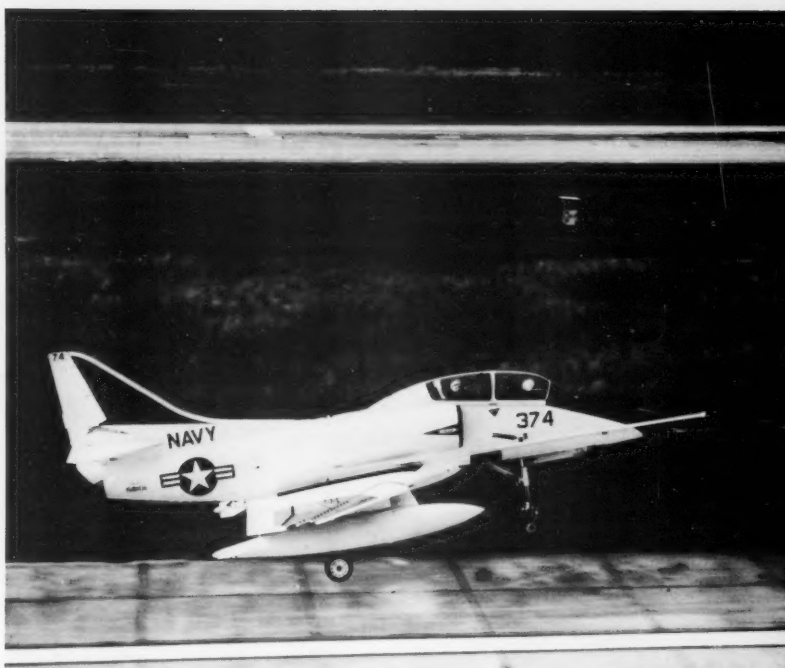
The flight schedule said I would fly a night formation-lead hop for an IUT (instructor under training). A jet camper—one of our stashed ensigns awaiting flight training—would ride in the back. What could be better? Lead a fleet guy around, bag all first-pilot time, and sell a future aviator on jets.

After our brief and a quick check of the weather, we headed for our aircraft. Metro forecast fog but not until well after our scheduled recovery. Soon, we were airborne, heading out to the TACAN rendezvous point.

We joined up and went on a little tour of the area. The instructor in the other aircraft noted that it looked as though the fog was coming in early and that it might be a good idea to head back. I looked down and saw low clouds, but I could still see through them. I wasn't too concerned, but I took the suggestion and called approach for vectors to a section GCA.

As we started, tower was calling the visibility just above the circling minimum with no ceiling. I still wasn't concerned; it didn't look that bad.

I could only hope that I hadn't set up a drift rate. I was along for the ride, just like my back-seater.



When we arrived at decision height, we made the missed approach in-section, as briefed. By this time, however, I noticed visibility was decreasing. The instructor in the other plane was also concerned. I detached them on downwind as tower called visibility one-half mile in fog.

On downwind, I thought that I had better get around quickly so I wouldn't have to divert. I told myself that I could make it. If the weather was below mins, the field would close, right? I rolled onto final and heard the aircraft in front of me on his missed approach. At four miles, I saw the strobes; I could now justify continuing the approach.

I kept hawking lineup and concentrated on my rate of descent. As I approached decision height, my decision had already been made.

"Proceeding visually," I called in more of a question than a statement as the "rabbit lights" disappeared.

For what seemed like a really long time, I couldn't see the runway or approach lights. I could only hope that I hadn't set up a drift rate. I was along for the ride, just like my back-seater.

On my rollout, I could see only one set of runway lights in front of me at a time.

"That sure was a stupid thing to do," I said. Tower confirmed my assessment when they called one-sixteenth of a mile. Proving ignorance is bliss, the jet camper piped up with, "It sure is foggy."

As I crept back to the line (ground said they couldn't help me), I thought how I had almost killed myself. I was looking for things to reinforce my decision to land. OPNAV says that the pilot must have the runway in sight *and* be able to make a safe landing.

As soon as I lost the runway and the lights, I should have made a missed approach, just like a foul-deck waveoff. I was more concerned with justifying my decision than with a potential disaster. There was no LSO and I was not blue-water. What was I thinking!

I'm sure that my wife would have preferred a call from me at a divert to a call from the CACO. On that night, I was one of those idiots you read about. ◀

Lt. Bynum was a SERGRAD with VT-24. He currently flies F/A-18s with VFA-113.

I noticed a flock of eight to ten large birds lifting off from the surface, headed directly toward us.

Birds!

By LCdr. Dave Newland

As we launched from NAS Whidbey, we could see the snow-capped Cascades and Mt. Rainier, over 100 miles away. My FRS pilot had nearly finished his training in the A-6, and he seemed confident in the aircraft. Our mission was a day instrument low-level to a target in northern Oregon in preparation for a night terrain-clearance flight over the same route.

The low-level went fine and it looked like my pilot would hit his TOT to the second. At 1,000 feet AGL and 450 KIAS, we were 10 miles from the target when I glanced into the FLIR before turning on the laser to get accurate ranging information to the target.

I noticed a flock of eight to

ten large birds lifting off from the surface, headed directly toward us.

"Birds!" I yelled, and a split second later, I heard a loud thump and felt pieces of glass shower the left side of my body. I looked up at my windscreen and to my surprise, it was still intact, although completely shattered.

I told my pilot to climb and slow down. We leveled off at 12,000 feet and 230 KIAS. I started talking to another A-6 in the target area to check us for damage. While waiting for the other Intruder to join, my pilot and I discussed procedures and I reinforced my desire to stay low and slow, not wanting the remains of the windscreen in my lap.

The second A-6 crew

couldn't see any damage other than blood and bird parts on our radome and windscreen. We returned to Whidbey and completed the damaged-aircraft checklist, going dirty overhead the field at 10,000 feet, just in case the flight controls were damaged.

We landed uneventfully, although I felt uncomfortable not being able to see much out of my windscreen. The A-6 had only sustained damage to the refueling probe, radome and the BN's windscreen.

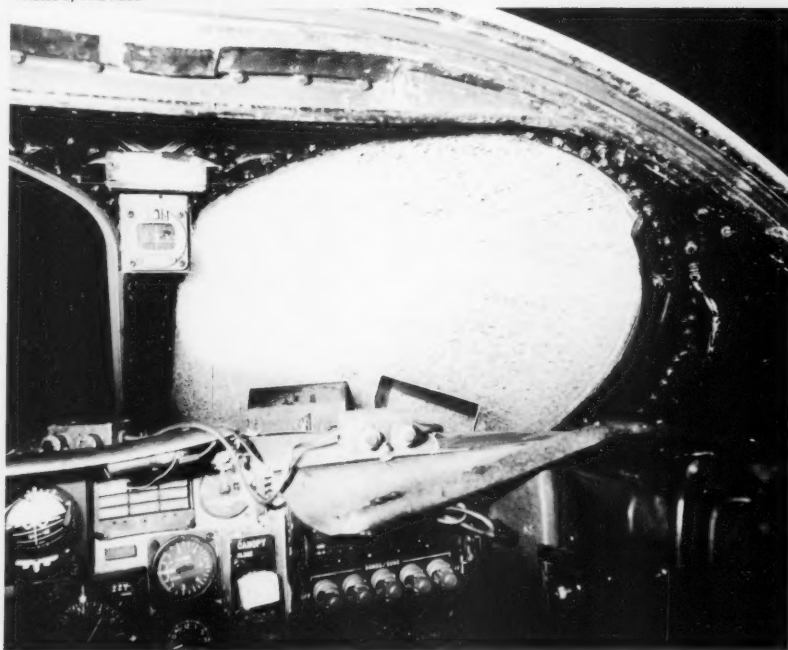
I learned several lessons from this birdstrike. Try to stick to standard terminology. If you see a bird, say, "Climb," or "Come left," not "Birds!" Always keep your visor down and oxygen mask on. I had raised my visor to look into the FLIR-radar hood and I looked up to try to spot the birds without lowering my visor. If pieces of the windscreen had come another six inches to the right, the glass would have ended up in my face rather than on my left arm.

Don't think, "It can't happen to me." Each time you fly your chances for a mishap are the same as mine. ◀

LCdr. Newland is an instructor with VA-128.



Photos by PH2 Naber



Keeping Things From

By LCdr. David L. Kennedy

Mission commanders will often say in a voice more serious than joking that the night's primary mission is to get a night trap. Everything else is secondary. One night, however, I was reminded once again that the primary mission is to stay alive. Even the dreaded night trap comes in second.

Descending toward the marshal stack and our place there, my pilot and I were preparing ourselves for the end of a uneventful CAP mission. Getting an OK pass would be a good way to salvage something from what had been an hour-and-a-half of drilling holes in the sky.

The dullness of the flight was quietly interrupted, however, by an inlet light. After we completed the boldface NATOPS procedures for an inlet light, the light went out and we pressed on. Just a bit later though, the light came back on, accompanied by fluctuating hydraulics, and we decided one of our ramp actuators was on its last legs.

"Bump"

On the second time through the boldface procedures, we stowed the ramp and left it there, rather than trying to reset the light again. The inlet ramp would be locked in the up position and would be less likely to drop down and reduce the intake flow of air to our Pratt-and-Whitney TF-30 engine. The last of the boldface procedures warned us to "avoid abrupt throttle movements."

After a few turns in holding, we prepared ourselves for the approach. My pilot completed his descent checklist and I reviewed the gouge altitudes and ranges which I would monitor during the last three miles of the approach to back up our glideslope. While the pilot is doing most of the work on approach, I always work as hard as I can to back him up. Although the new software in the F-14A provides needles on my TID, I still watch those gouge altitudes and ranges. Another trick of the trade I used at night was to select IR on my DDD radar screen so that I wouldn't have its bright green-white glow in my face.

Pushing on time, the controller directed us to maintain 300 knots. This seemed unwarranted, based on our distance from our interval, but we complied. At around 4,000 feet, we went popeye, which is just one more nuisance to contend with at night. As we reached 10 nautical miles, the normal spot to dirty up, we were told to stay clean until eight miles. We started talking about our situation and it seemed to us that we would be closing on the aircraft ahead, especially with our higher speed and late dirty-up.

Somewhere ahead of us in the dark, a Tomcat from our sister squadron climbed to 1,200 feet and turned downwind into the bolter pattern. Since that crew was on button 18 and we were on 16, the turn went on unknown to us.

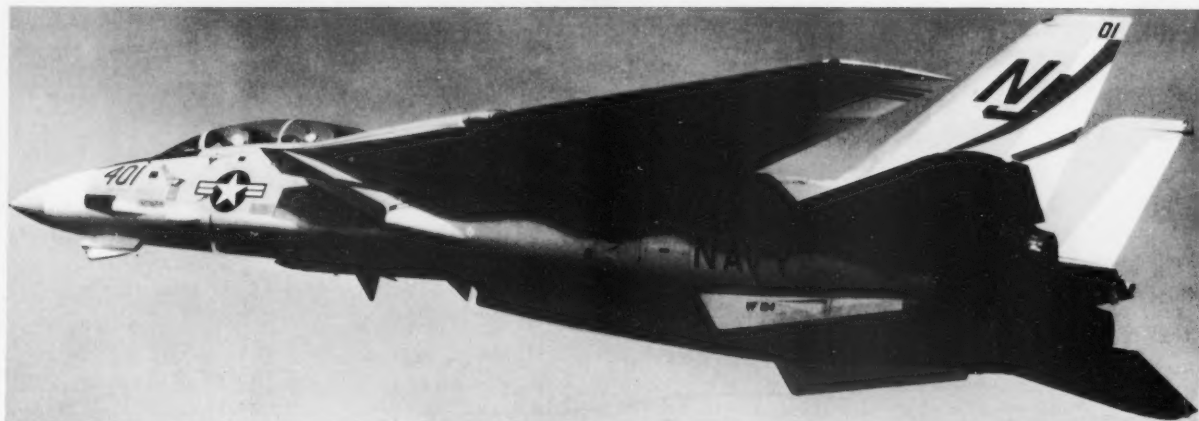
"The ship is in a turn," the controller told us. This was no surprise to my pilot, who had seen the needles wandering to the left as we motored along at 1,200 feet. Following the remark from our controller, we came left to center the needles.



LCdr. Ken Neubauer

Going In The Night

...helping him avoid an ulcer was the last thing on my mind as we continued our sluggish ascent.



Ahead and below us, the ship continued its turn through an angry, lightning-filled squall line of towering cumulus. In CATCC, a call from the bridge came over the IMC saying that the ship would continue the right turn and report when steady. The controllers began giving new vectors to the approaching aircraft.

As the needles continued to sway to the left, it became difficult for my pilot to keep us on center, and he began chasing bullseye farther and farther left as we flew in and out of the clouds. At 4.5 miles, the ship locked us up and we reported the needles showed us right of course. The controller acknowledged our call and told us to fly the needles.

In the brief, we had been reminded that a good line-up was a vital part of getting a good boat pass at night. That made the transition from needles to the ball easier. With that in mind my pilot concentrated on our line-up. Unfortunately, after coming further left, we still had not centered the needles.

At around 3.5 miles, a desperate call came over the radio: "203, climb immediately to 2,000 feet!" My first thought was that, in all the distraction of chasing the needles, we had caught up with our interval and would have to abort the approach. My pilot's first thought, however, was nothing so benign.

In front of us, he saw the lights of another aircraft...

very close aboard. Climb to 2,000? You bet! The aircraft closing in was not our interval. It was the Tomcat in the bolter pattern, which had never received a new downwind heading and continued at 1,200 feet (our altitude) on the ship's old reciprocal heading. As he selected military power, my pilot remembered the boldface "Avoid abrupt throttle movements." We had to keep from sucking down an inlet ramp which would cause a compressor stall. Things didn't seem to get any better as we climbed, for as we turned to the left to avoid the oncoming F-14, he began turning in the same direction.

Another desperate call came over the radio as our controller saw the gravity of our situation: "Say angels passing!" Our answer of "1.5" did nothing to ease his nerves, but helping him avoid an ulcer was the last thing on my mind as we continued our sluggish ascent. We passed over the downwind aircraft and continued our climb, the danger was over.

Our second pass at the ship was much less eventful and we finally did log that important night trap. The flight deck never looked so much like home as it did that night. I remember commenting later that this had been the first flight in my career that I would rather someone else had flown.

LCdr. Kennedy is a RIO with VF-21.

Half-Court Shot

into

the Net

...It's Good!



By LCdr. James J. Shulock

Harry S. Baer

Even though there's enough deck on the carrier for seven or eight basketball courts, this was a shot I wish I hadn't taken. I had joined my squadron three days ago while it was off the coast of Africa. After enjoying an extensive Type III and ORE (remember those), I felt pretty salty. Actually, I was a "two months out of the RAG" new guy.

My stick and I had completed our brief for a night SSC hop and had grabbed a quick CV supper. After we walked to the paraloft as a crew, he lagged behind in Maintenance Control to discuss a job related program. So, I made my way out of the 0-3 level to the starboard catwalk hatch just forward of elevator No.1. The blackout curtains did their job. It was a bear to find the hatch dogs, but my flashlight lit the way out onto the catwalk.

I was careful to peek over the scupper to check for aircraft on cat No.1 before climbing the steps to the flight deck. My A-6 was parked on elevator No.3, so I had to walk aft on the starboard side past elevators 1 and 2, the island and the Hummer hole.

Though I had walked 45 minutes before the launch, aircraft were already turning and taxiing as the ship was

experimenting with flex-deck operations. I came out of the catwalk and took about 10 steps aft, my head down, flashlight pointed to the deck to look for objects that I might trip over, all the while wishing my night vision would kick in.

About the eleventh step, I was hit by a blast of hot exhaust and I had visions of dark objects flashing past my eyes. Then I realized that I was no longer on the flight deck. People were gathered above me with flashlights pointed in my face. I was lying in the deck edge net!

With the help of the flight deck personnel that saw me go over the edge, I was none-too-gently pulled from the net and back into the catwalk. Once I took inventory and found that I was in one piece, I carefully returned to my ready room and told the SDO that I really didn't want to fly that night. That, fellow carrier pukers, was 11 years ago. Since then there have been a few cruises and more than 500 traps, and you can bet that I try to make my path to the jet the shortest no matter where it may be. I keep my head up. I don't intend to give the flight deck another three-point try. ◀

LCdr. Shulock is a BN with VA-145.



Mushing Along on Fumes in the Great Northwest

By Lt. Jim Radigan

The pilot jumped out and my new pilot strapped in prior to gassing up the jet for my second bounce period. This was our second flight together and at the time, we were the command's only nugget crew. We had briefed at length earlier in the day, because as the junior crew, we did not want to make any mistakes.

Through the pits, taxi, takeoff checks and finally airborne ... no problems. The flight to the OLF took five minutes and we were soon on our first pass. The sun was setting and as the air temperature cooled the fog began rolling in. There were three other aircraft in the pattern and aside from fog reports to the LSO, the period was uneventful.

approach/October 1992

We were the first aircraft to leave the pattern and head home. VFR at 3,500 feet, we contacted approach and requested the break (ATIS was calling it better than 5,000 feet and unrestricted visibility).

Approach denied the request and put us into the biggest GCA box pattern I had ever seen. Our downwind leg for runway 7 took us more than 20 miles from the airfield. We turned base leg and I had to tell approach that they were flying us into Canadian airspace. Finally a turn toward final ... a 22-mile final! A quick glance at the fuel gauge showed about 2,500 pounds.

We discussed the fuel situation and decided that we would call minimum fuel at 2,000 pounds. After all, the field was broadcasting VFR and we had no reason to doubt the controllers. I dialed up ATIS on the back radio and again heard the severe clear report.

"Approach, 501, are you accepting break traffic?"

"Negative, 501," they replied. "Turn left heading 065, descend and maintain 1,800 feet."

At that moment we glanced at the fuel—1,800 pounds—and quickly decided that another trip around "The Sound" was out of the question.

About 2,200 pounds of fuel onboard, we descended. We were golden! Or were we? After passing 3,000 feet, we were completely IMC, the sun had almost set and we were low on gas, but in five minutes we would be on deck and life would be good again.

We continued our approach and our descent down to 100 feet and much to our dismay we were still in the goo!

"Execute missed approach instructions!" exclaimed the controller. At that moment we broke out.

It is a peculiarity of this part of the country for the fog to roll in off the cool water and completely cover half of the airfield. Still radiating heat, the earth dissipates the fog leaving the departure end of the runway completely clear.

Already at midfield, we had to take it around. At that moment we glanced at the fuel—1,800 pounds—and quickly decided that another trip around "The Sound" was out of the question. We were VMC and that's where we wanted to stay. One note from NATOPS stuck in my mind. "A-6s have flamed out with as much as 700 pounds of fuel remaining." Some quick arithmetic told me we had at best 10 minutes of flight time remaining.

As my pilot turned left, out over the water, I tried to relay our intentions. We were planning on staying VMC, below the fog, to attempt another landing to runway 7.

"501, you are at 100 feet! You are dangerously low!" screamed the voice from tower.



A quick glance at the radar altimeter confirmed our altitude, but we didn't intend to lose sight of the airfield. As my pilot focused all his attention on not hitting the water and getting us to a point where we could make a successful landing, I continued to transmit our intentions while scanning the radar altimeter and radar scope for clearance.

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We made an angling approach toward the touchdown zone.

"We're going to be fast and long," my pilot said. "I recommend we take a trap."

"Concur," I answered and down came the hook.

We touched down earlier than we thought and rolled into the gear. The deceleration was a comforting feeling after what seemed like the longest three minutes of my life. As we waited to be towed from the gear, our low-fuel light popped on with approximately 1,400 pounds remaining.

In retrospect, we could have made a difficult situation easy by just climbing and entering a downwind for the opposing runway, which was completely clear. Traffic was landing to the east for noise considerations, there were three jets behind us and as a junior crew we thought that we would get a violation if we tried to land in the opposite direction. Maybe we did over react to the fuel situation, but again being inexperienced, we thought we were on fumes.

Big lesson learned! There's a time when you have to control the situation. Maybe the controllers didn't know about the developing weather conditions. You fly the jet; you make the decisions. They can yell and scream at me later, but at least I'll be around to hear them.

Lt. Radigan is a BN with VA-196.



Split-Flap

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The preflight briefing was easy. The operating area was only 17 miles away, the weather was supposed to be VFR, and the mission for a Direct Air Support Center (DASC) would only require us to orbit at 10,000 feet for three hours. "It doesn't get any easier than this," I thought as I boarded the aircraft.

The five-man crew and nine Marines along to operate the DASC in back were ready to go. A quick glance at my watch confirmed that we should be back on deck in plenty of time for a gourmet chili dog or two from our squadron wives' bake sale.

In practically no time at all we had all four engines "turning and burning" and, after normal engine run-up, we taxied to the hold-short. Tower gave us a squawk for flight following and because of light winds, offered us the option of using runway 5L instead of the active 14R, which we gladly accepted. Our operating area was now just off the departure end.

Shortly after takeoff we raised the gear and tower directed us to "contact departure." Before calling departure, I asked the copilot to raise the flaps as we were about to enter a solid cloud deck at 900 feet AGL. Just as he called that the flaps indicated up, the aircraft rolled and yawed to the right, which required significant left aileron and rudder to correct. My first thought was, "This has

never happened before." While trimming the aircraft, I quickly scanned the instruments, but they didn't show anything unusual since we were climbing in balanced flight at six degrees nose up and accelerating straight ahead passing 170 knots.

From the corner of my eye, I caught the rudder and aileron trim-position indicators, which both indicated five degrees left aileron and five degrees left rudder. Definitely not normal for takeoff/climb trim and much more than could result from a fuel imbalance.

"Something isn't right here," I said, and within seconds the First Mechanic reported that our left inboard flap was still at 50 percent with all other flaps up. My mind raced to the area in NATOPS for this scenario, but, this type of problem is not only unusual but, theoretically, improbable. Our asymmetrical flap protection should have prevented any flap movement once the system sensed a split-flap condition. So much for theory; now the reality: something was seriously broken in our flap system.

The copilot had already checked in with departure, who then directed us to check in with the controller of our operating area. Prior to switching frequencies we heard Cherry Point Approach tell traffic that the airfield was now IFR with numerous rainshowers moving into the vicinity. The navigator, whose ICS barely worked, had to borrow the radio operator's cord (which wasn't much better) to tell me there were rainshowers straight ahead, to the left, and to the right.

Herc

By Capt. Bernie LaValley, USMC

"Keep us clear of the thunderstorms," I told the navigator as our copilot got clearance for us to zig-zag our way out to the area to find a VFR area to dump fuel and do a controllability check. We told our controller about our situation, and climbed to 9,500 feet before giving up hope of finding anything close to VMC. I chose to stay at 9,500 feet to avoid the 11,000 foot freezing level that would have turned us into an "ice machine" with our slow 170-knot airspeed and all that moisture out there.

Next, we should have dumped fuel to a landing weight of 120,000 pounds but this would have required us to temporarily turn off our radar. The navigator had dialed in the boundary coordinates for our working area on the INS and superimposed this information on my radar scope. A quick check of the area revealed that although Cherry Point had numerous rainshowers, our operating area was clear of thunderstorms and showers.

We set the power for 170 knots, notified ATC, and dumped fuel down to 120,000 pounds. We contacted our home base and informed them of the situation.

Now we were ready to make a controllability check in the landing configuration. We knew that the aircraft was controllable at 160-170 knots, but our no-flap approach, threshold, and landing speeds would be 153, 143, 123 respectively. We lowered the gear and did the controllability check at 140 knots IAS. This check consisted of shallow level turns to the right and left with no more than a 10-degree bank. The aircraft performed well.

We left the landing gear down as we descended toward a PAR approach to Cherry Point. We found an 800-foot ceiling, calm wind and a wet runway: a great improvement from the weather just 20 minutes before.

On rollout, as we brought the throttles from flight idle to ground idle, all engine and propeller indications were normal. As we slowly reversed the throttles, the aircraft swerved to the left and I corrected by immediately returning the throttles to ground idle. The engineer reported that our No. 3 engine failed to enter the reverse range, so we finished the rollout using outboard engine reverse and brakes.

As we pulled off on the taxiway, I wondered if anything else could go wrong. Upon engine shutdown, we discovered that our auxiliary hydraulic pump had failed.

As I watched various maintenance personnel, photographers, and the tech rep go over the aircraft, I thought about how we had successfully handled unusual and multiple emergencies. We used the old standards of crew coordination and NATOPS procedures. When we got back to the squadron, I happily inhaled a couple of chili dogs to celebrate.

Capt. LaValley is a KC-130 aircraft commander with VMGR-252.

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...a classic case of over confidence in the other guys, fatigue, spatial disorientation and a host of other mistakes...

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Bannum & Bailey Boat ops

By Capt. Raymond Pope, USAF

Picture three U.S. Air Force MH-60G Pavehawk helicopters doing boat ops on a dark night, 60 miles from shore. I'll never forget that night and how close we came to splashing two helicopters into the Atlantic Ocean. We have many qualifications to maintain, including shipboard operations. Unfortunately, boat time is hard to come by; it can be many months between decks.

The week had gone smoothly with day and night shipboard landings. During night ops, we were using night vision goggles. This particular night had gone well considering we had three MH-60G Pavehawks around the boat. Two of the aircraft had instructor-rated aircraft commanders on board and the third had a Marine Corps exchange pilot in command. I felt comfortable about having that level of experience flying that night. I could even relax and think about my upcoming vacation.

All of the aircraft had completed bouncing, and we would be the last to leave the deck. As copilot, I was in the left seat. One helo was already holding in starboard delta as the second helicopter left the No. 2 spot on the deck.

I watched as he took off and began a climbing left turn away from the boat. It became very apparent how dark it actually was as I watched his departure. Even though we were wearing our NVGs, there was no horizon and almost no illumination. We planned to join our fellow Hawks in the pattern. Pretty simple, huh?

As we launched, we also started a left climbing turn to enter starboard delta. We immediately started looking for the other two aircraft. We saw what we thought was flight lead at our two o'clock moving to our five o'clock.

"Great," we thought. "The No. 2 Hawk should be joining on him right now." We started a slow, right turn to intercept them. Something was wrong, though. Where was No. 2? We still hadn't seen him. Wait, what was that light at our 12 o'clock position? We stopped our turn and

focused on the object, 12 o'clock high. In seconds, the light was now the fuselage of a helicopter coming at us head-on. He passed just above and to our left at what looked to be about 50 feet.

This was quickly turning into a three-ring circus, and it wasn't fun being at center stage. Our radios were quickly clobbered with a lot of chatter. An individual recovery back to Oceana would certainly be preferable to interlocking rotorblades over the Atlantic.

We started a right turn back toward land and figured we would sort it out back at base ops. Little did we know the Hawk we almost kissed never saw us and was now in a left turn coming back around at us. What was this, Topgun, helo style? Unbelievably, he came at us again.

Enough of this. A hard right jink and an immediate dive toward the water put us out of harm's way at 100 feet AGL and heading home.

Two hours later, I lay awake in my motel room thinking of the night's events. This was a classic case of overconfidence in the other guys, fatigue, spatial disorientation and a host of other mistakes and foul-ups. But everything had gone so smoothly all week. What happened? Everything. No matter how the flying is going or what the qualifications are of the crews, the basics of planning, coordinating and communicating must be followed. I will never buy a ticket to a circus like that again.

Capt. Pope flew MH-60Gs with the USAF's 55th Special Operations Squadron.

TSgt Kit Thompson



1,200 Pounds Below Bingo!

PH1 Michael D.P. Flynn



By Lt. Mark Bodoh

After a year and a half in my squadron and a cruise under my belt, I welcomed the added responsibility of flying with a nugget pilot. We'd been together for about a month and were starting to get comfortable flying together. After completing CQ the week before, we launched on our first tactical hop off the boat.

We launched Case II for a 2 v 2 ACM-AIC hop against two Hornets. The weather was VFR with scattered layers from 1,500 feet to 10,000 feet. Conditions were forecast to remain the same. After a fun time with the Hornets, we were on ladder (set to be 2k above bingo at our expected ramp time) proceeding to marshal for a Case II recovery. Ten miles before we reached the marshal

stack, the ship told us it was going Case III. No problem, the weather was still 800 BKN with rain showers in the vicinity.

Established in marshal with seven minutes to push, we were using a marginal radar to avoid the heavier rain showers at our altitude. We were concerned about being at the freezing level and flying through occasional showers, so we turned on the anti-ice. Although not receiving ILS needles we weren't too concerned since we had flown this jet during CQ and had gotten them at about six miles on other approaches.

We were about the fifth jet to push and could hear the LSOs asking for external lights and windshield air. I still

wasn't worried though, because people were getting aboard. We were told to dirty up at 12 miles which was fine with me, more time to get comfortable.

Although we were in a light rain, I was confident we'd get aboard. Hadn't my nugget been on and on at three quarters of a mile on every approach we'd flown together so far?

At 3.5 miles, as I was expecting to hear "ACLS lock on..." approach directed us to fly the bullseye. With no needles, we downgraded to an ASR. By now, the rain had gotten so heavy there was no horizontal visibility although I could see the water. At 500 feet, approach called our MDA and for the ball call. We were clara and waved off. We saw the ship (with aircraft launching) pass under our left wing as we leveled off at 1,200 feet.

*...the rain had gotten so heavy
there was no horizontal visibility
although I could see the water.*

On downwind, at about six miles, I started wondering when we'd be hooked in. At seven miles, approach asked if we were at 3,000 feet. "No," I said, "level at 1,200 feet."

At this time we were 1,000 pounds above bingo. We were then directed to climb to 3,000 feet and head 180. I asked for their intentions.

"Plug the S-3 who's 15 miles south at 3,000 feet," the ship replied. "It's headed inbound and you're cleared to switch departure." Turning and climbing, we raised the gear but got a flap/slat lockout. I couldn't see the flaps but the slats looked like they were all the way down. I immediately asked for a rep and broke out my PCL to find the gear up/flaps down bingo. We suddenly went from 1,000 pounds above bingo to 700 pounds below, a situation several of us had discussed on our last deployment without coming up with a clear solution.

Headed outbound, we were in the clouds at 3,000 feet so we continued our climb to 3,800 feet. Our radar had gone down but I had a good mode and code on the APX-76. After telling departure no joy on the tanker, they asked him if he saw us. He didn't and they asked for his position.

"Level at 3,000 feet, popeye," he replied.

At first, I thought he was an idiot; my pilot's reaction was much stronger. My pilot told him to climb just as he popped out of a cloud at our 10 o'clock, four miles.

I immediately directed him to slow to 200 knots to expedite our rendezvous. As we joined, I could see the basket moving quite a bit. My pilot did a real nice job plugging but we weren't getting any flow. We backed out and moved left while they cycled the package. Again we

got in the basket and it was time to face the reality of a sour tanker.

By this time we were now 1,200 pounds below bingo for flaps full down. We could hear others being diverted and figured there was no chance of getting aboard. The flaps indicated about half up and my pilot noticed it was taking less power to maintain 200 knots than it normally would with the flaps full down. Knowing this and also that there's a 2,000 pound on-deck reserve built into the bingo charts, we decided to try to make it to our divert field.

As we accelerated past the tanker, my pilot noticed the flaps coming up. I visually checked the slats and saw them up, too. Turning and accelerating, we were only 100 pounds below bingo and weren't turning back. Sixty miles out from the field, the low fuel lights came on. That made me a little nervous but I knew we'd use very little fuel in the descent. After a min-fuel GCA we touched down with 1,600 pounds of fuel in the jet.

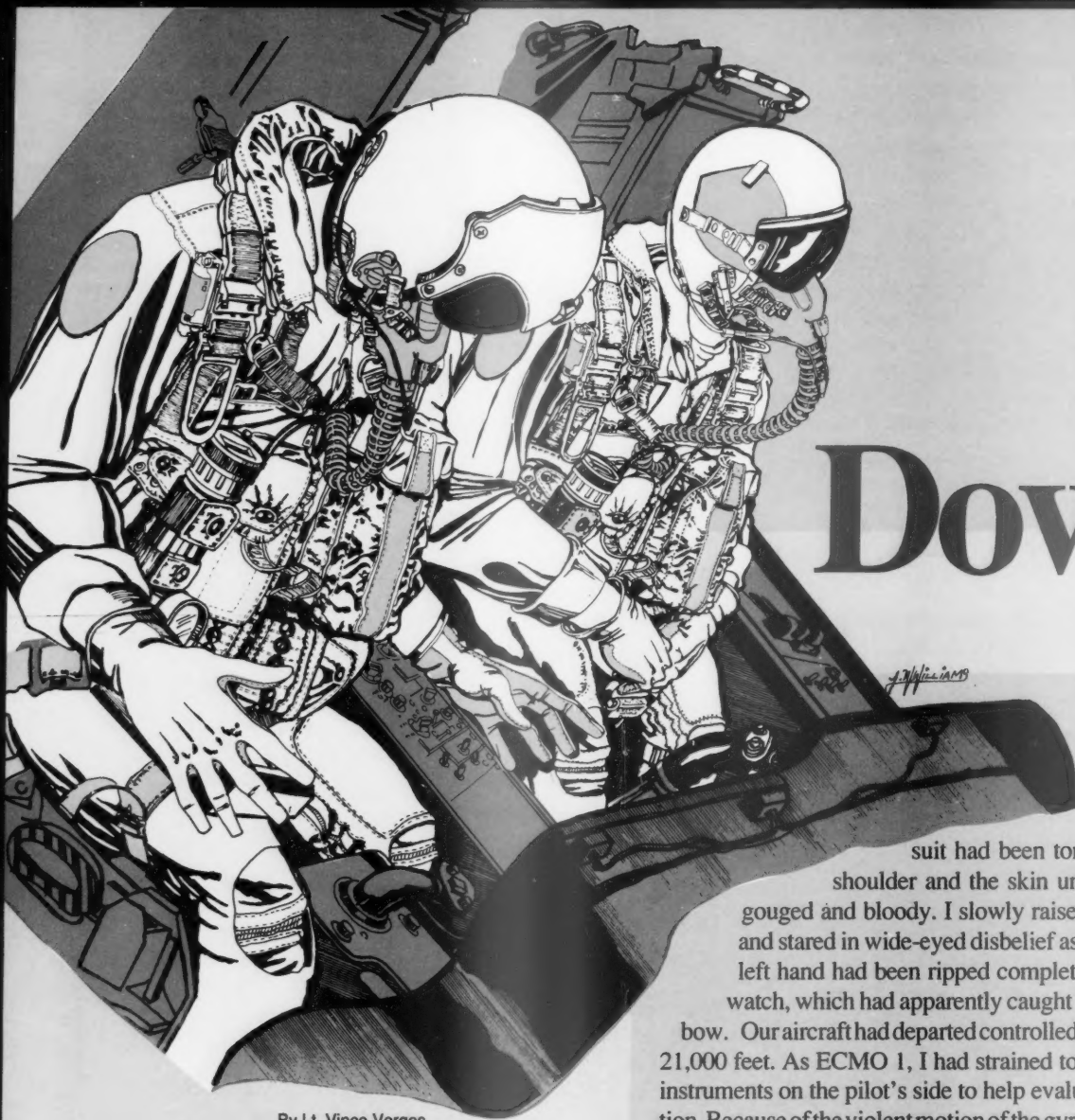
Looking back, there are some things I would do differently. First, as soon as I realized we were below bingo, I'd use the "E" word with departure. As it was, it took our XO, who just happened to walk into CATCC, (our rep was coming down from prifly) to get everyone's attention that we were in trouble. Asking for a rep like I did is an everyday thing. (I might just have done that to tell them I was out of LOX; they don't know.) I also assumed the tanker had been checked sweet. (Ours had come from the beach and hadn't been checked.) I still would plug under the same circumstances but knowing his status would have helped us make the decision to bingo earlier if we hadn't gotten a tally when we did.

*My pilot did a real nice job
getting in the basket but we
weren't getting any flow.*

It would have been nice to know that the ship had gone below mins as we found out later. Also, it never occurred to me to ask the tanker to check our flap position as we accelerated past him.

Lastly, there were a lot of people on the radios: CAG telling departure to get us another tanker, our CO in another jet asking for our status, our rep, departure, and all the other jets being diverted. It could have been very easy to get bogged down. We decided to bingo, turned toward our divert field and then told everyone what we were doing. Would we have made it with the flaps partially down? I don't know and am glad I didn't have to find out.

Lt. Bodoh is a RIO with VF-11.



Down

By Lt. Vince Verges

The last thing I saw as my seat left the cockpit was the altimeter rapidly descending through 11,000 feet. In the blink of an eye, I was clear of our EA-6B as it plummeted out of control into the rugged terrain below. The wind howled in my ears as my helmet and oxygen mask ripped away. My eyes blurred and I thought something was wrong with them before I quickly realized my contact lenses had blown out. I glanced up at my parachute as the violence of the ejection subsided and saw that it was perfect.

I realized only then that something was very wrong with my left arm, which hung stiffly down at my side. My flight

suit had been torn open at the shoulder and the skin underneath was gouged and bloody. I slowly raised my forearm and stared in wide-eyed disbelief as I saw that my left hand had been ripped completely off by my watch, which had apparently caught on the canopy bow. Our aircraft had departed controlled flight at about 21,000 feet. As ECMO 1, I had strained to see the flight instruments on the pilot's side to help evaluate our situation. Because of the violent motion of the gyrating Prowler, the only way I could focus on and call the instruments to the rest of the crew was to lean far to the left.

The pilot command-ejected us without warning at the NATOPS-dictated altitude of 10,000 feet AGL. My shoulder harness retracted during the ejection sequence and helped pull my head from under the canopy bow, but my left arm was left grossly out of position.

As I hung in my chute, I screamed in anger and disbelief at what had happened to both my hand and what was a perfectly good jet. I put my arm down knowing that it wouldn't be a good idea to fixate on that problem just yet. My vision is poor and I didn't have an extra set of glasses in my SV-2. But it was still easy to tell that I was going to

into the Woods

come down in a hilly, heavily-timbered area with no help in sight.

Almost automatically, I inflated my LPU as a cushion. I also deployed my raft to prevent catching my legs under the seat pan and really putting myself in the hurt locker. I then used my four-line release with great difficulty to try to steer to a clear area, which would improve my chances of being spotted on the ground. It was too hard to steer with one hand, so I abandoned that to try my luck on my PRC-90.

The bad day got worse as I saw that the pocket for the PRC-90 was empty. The radio had apparently come free during the ejection as had all of the Mk-79 pencil flares in a separate pocket. I could do nothing but wait for the two-minute parachute ride to end.

I pulled myself in tight and held my left arm close to my chest for the entry into the trees. It was very smooth, but my bad luck held true to form: my parachute snagged in the trees and left me dangling 20 feet in the air. It was then that I really wished I had stayed in bed that morning. With no radio, I wanted to stay with my chute and URT-33, which hung near my raft a few feet above and away from me.



Realistically, no one would come to my aid in the near future, but there was always the possibility that a logger or hiker would appear, so I didn't try to free myself just yet.

After 20 minutes, the pain started to increase in my arm as well as my ribs, which had been bruised by the opening shock of the chute. To top it off, I had suffered a pretty bad case of seat slap as my left leg had been beaten up by the ejection seat on the way out. It had swollen enough to pull my G-suit very tightly around my entire leg.

The pain of all my injuries became unbearable and the only option was to pull myself up into the tree with my good arm, release the koch fittings and climb down. Before doing this, I pulled out my knife and punctured the LPU lobes rather than fumble around with the oral inflation tubes.

Once released, I knew that a fall from this height would probably be fatal for a person in my condition, but the branches were strong and closely spaced all the way down, so I risked it.

Once I reached the ground, I realized that the slope I had landed on was very steep. During my parachute descent, I had seen a logging road near the top of the ridge and a small clearing near the bottom. There was no way to get up to the road, so I decided to head to the clearing. I was hurt, but it appeared that my chute was too far down in the trees to be spotted from the air, and the canopy of trees was so thick I could barely see daylight on what was a CAVU day at noontime.

I took 10 painful steps down the hill, then stopped to consider applying a tourniquet to my left arm. After removing my right leg restraint, I looked at the wound for only the second time since the ejection. It had quit bleeding, apparently because I was keeping it elevated, so I discarded the leg restraint and pressed on. The brush was thick and the terrain was uneven. Several times I had to back through the undergrowth to protect the open wound. It was a relief to hear another Whidbey jet making close passes over the trees. That at least told me that someone knew our general location and SAR efforts were underway. We were about 80 miles from home plate, so it was obvious that helos wouldn't be around for at least another hour or so.

My luck finally turned as I hit the clearing dead on. The SAR bubbas told me later that I was only 30 yards from my chute. (I thought I had walked at least a quarter of a mile!) I could now see the A-6 that had been flying over me earlier and he was coming straight toward me again.

I pulled out the day-night flare. Hoping for the best, I held the flare with my right hand and pulled the ring sharply with my teeth. Luckily, the only thing that

burned was the flare and the A-6 pilot told me later he saw the smoke.

Fatigue was really starting to set in and I had to rest. The clearing was three inches deep in water, but there was a small area dry enough to sit on. I took off my SV-2, laid it out and started to go through it. I carried 1.5 pints of water that I drank immediately. I made a loop out of my whistle line and put it around my neck. I blew on it almost continuously in case anyone was nearby.

The signal mirror was too hard to accurately aim with one hand, so the best signalling device left was the space blanket. I opened it and laid it out neon orange side up. About that time, I heard helos in the area and just sat tight. Over the next 30 minutes or so, different helicopters flew over me numerous times. Each time I waved the space blanket vigorously over my head until finally a Navy SAR helo from Whidbey spotted me and dropped a man to me. The chief onboard said later it was only the waving blanket that caught his eye.

Two hours after I ejected, the helo crew hoisted me up with a horse collar and, once onboard, I felt myself let go and slip deeply into shock. I was extremely cold and thirsty and began shaking violently; a corpsman administered first aid during the 25-minute ride to Bremerton Naval Hospital. The corpsman told me that the three other injured crew members were picked up, too.

The worst of those was ECMO 2, who had also hit the canopy bow and sustained deep muscle bruises on his left arm and leg. Each of them returned to flight status fairly quickly.

Lessons learned? Take your pick. It's noble to do all you can to save a jet, but make sure your body is in position before you do anything else. For you multi-place, command-eject guys, not enough can be said for being up hot mike during critical phases of flight.

Put that extra pair of glasses in your survival vest today. Being blind in a crisis definitely decreases your survival chances. Preflight your gear thoroughly. Will that radio stay in? How secure is the rest of your gear? Use that extra five pounds for whatever is useful for the terrain you'll be over.

If at all possible, stay put once on the ground. A long hike is not what an injured aviator needs. The possibility of getting lost or passing out where no one can find you is very real.

Lastly, never give up. No matter how many bad breaks you get, stick with it and do what your training has taught you. ◀

Lt. Verges is assigned to VAQ-139, awaiting the disposition of a medical board.



Bravo Zulu:

By Peter Mersky

All You Need to Know About Submitting a BZ

Too often, we receive Bravo Zulu nominations signed by squadron PAOs or safety officers. Naturally, the CO tells his public affairs officer to write the story about Lt. Jones' great save, and the young JO will respond to his skipper's direction. But, the nomination *must* be endorsed by the skipper then the wing or MAG CO. For a nomination involving a helo det or air station aircrew, the ship's CO or station CO should endorse the writeup after the squadron skipper.

Why are BZs the only articles that require a chop before they leave the squadron? Because we are officially commending these crews in the magazine, we want to make sure that everyone in the chain has had a chance to see the writeup. It wouldn't do to have the wing CO call the squadron and tell the skipper, "That's not the way I heard it." Or, "I didn't know about the fluctuation in hydraulics. I don't like learning about it the same time that the world does." Embarrassing, yes?

Along with the lack of endorsements, we are also seeing BZ nominations arrive without photos. The final piece of the puzzle is a nice photograph of the crew. We prefer a well-lit 5x7 print, with everyone's face visible, and everyone identified on a separate page or on the back. Identification means name and rank. No call signs, and we prefer a first name rather than initials.

In the writeup, it also helps to identify each person's role in a crew, i.e., crew chief, first mech. There are also times when it is obvious that the pilot working the controls had the most

trouble and is thus probably most deserving of the BZ. However, the crew behind or beside him would undoubtedly have been just as dead if he hadn't pulled it off. And most likely, the crew provided backup to the pilot, whether by calling out instrument readings or information from a PCL. Please include the role(s) of supporting player(s) in the incident.

And as with all our articles, we appreciate a DSN contact in case we have questions.

We also acknowledge BZs—as with our feature stories—with a postcard. We also indicate whether we intend to run the BZ. If we don't, we'll tell you on the card. We chop the BZ through the cognizant analyst at the Safety Center. Be assured this person is a qualified aviator in that specific aircraft and has intimate knowledge of its role and systems. Thus, if we refuse a BZ, it's because the analyst for the aircraft did not feel that the incident was, in fact, a BZ.

This brings us to an important point: what is a BZ? Admittedly, the answer can be somewhat subjective, but we try to be as objective as we can. Basically, we will endorse a BZ nomination if we believe that the crew did more than react with NATOPS—what they are paid to do. Did the incident require smart flying or good crew coordination? Was there a compound emergency? Was the situation new, without specific or lengthy NATOPS procedures? Was the pilot a student or a junior aviator with limited time in the aircraft? Was the aircrew operating blue water, or was the bingo field nearby?

How we see the nomination depends largely on how it is written. Don't shortchange your nominee by trying to restrict the length or language of the writeup. We're not looking for melodramatics but *tell the story*. Give us details of the problem or emergency and when possible, tell us the cause of the problem. Tell us how the crew reacted, what they considered doing and what they said among themselves and to other people and facilities.

Here's a quick list of requirements for submitting a Bravo Zulu. Safety officers, why not xerox this article or clip it out and put it in your pass-down folder?

How to submit a Bravo Zulu:

1. Detailed writeup of the incident.
2. Include crew names and ranks/rates, and their positions in the crew, and a DSN phone contact.
3. Chop writeup through squadron CO, then wing or MAG CO. For a helo det or air station aircrew, use the ship's CO, or NAS CO.
4. Send writeup, squadron and wing endorsements, and a good 5x7 photo of the nominee(s) to:

Editor (71)

Approach

Naval Safety Center

NAS Norfolk, VA 23511-5796



Cpl. Anthony G. Sousa



Left to right: Maj. Greg Reuss, USMC; Capt. Matt Kirby, USMC; Cpl. Charles McGee, USMC. Not pictured: LCpl. David Timony, USMC

**Maj. Greg Reuss, USMC
Capt. Matt Kirby, USMC
Cpl. Charles McGee, USMC
LCpl. David Timony, USMC
HMH-465**

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After making several touch-and-goes at NAS Cubi Point, Warhorse 21 left the field to the northwest for the instrument portion of a FAM flight. During the climb, at 400 feet MSL and 130 knots, Capt. Kirby (HAC) raised the gear. As the CH-53E's gear retracted, Capt. Kirby and Maj. Reuss (copilot), who was at the controls, saw that the gauges for the second-stage hydraulic pressure and utility hydraulic pressure had fallen to zero. Seven caution lights were also lit, indicating the loss of secondary and utility hydraulic flight-control servos.

Maj. Reuss turned toward Cubi while Capt. Kirby went through the appropriate NATOPS procedures. Half way through the turn, the helicopter shuddered as the automatic flight control system (AFCS) failed. As the aircraft rolled out of the turn, the No. 1 and No. 2 generators kicked off-line, again causing the degraded flight controls to shudder. The caution panel illuminated, indicating a main-gearbox chip light.

Realizing that they faced a com-

pound emergency, the crew decided to land immediately. Maj. Reuss turned toward the beach at Subic Bay Naval Station and called for the landing checklist. While on final, Capt. Kirby realized that the nosegear was indicating unsafe. He blew the gear down with the emergency t-handle.

Cpl. McGee (crew chief) and LCpl. Timony (first mech) provided landing clearance and prepared the aircraft for landing. Maj. Reuss made a no-hover landing on the ash-covered beach.

After shutting down, the crew checked their aircraft. They found that the coupling that connects the drive shaft of the main gearbox to the accessory gearbox had failed, resulting in the loss of all systems that were driven by the accessory gearbox. A large quantity of metal particles was also present in the main gearbox's oil sump. If the crew had continued the flight toward Cubi, the main gearbox might have seized, causing the aircraft to crash.

**Lt. Roger Dutcher
Ens. Keith Harper
VT-27**

Lt. Dutcher and his student, Ens. Harper, were on a night instrument training flight. They were completing

an instrument approach when they tried lowering their T-34C's landing gear. As Ens. Harper moved the gear handle, they heard straining noises from the gear motor. The crew saw smoke and smelled electrical fumes along with unsafe indications for both mainmounts and the nose gear.

Lt. Dutcher quickly secured the battery and generator while climbing toward NAS Corpus Christi. The smoke and fumes stopped and the instructor and student entered the delta pattern to complete emergency procedures.

They finished unsafe-gear procedures and restored electrical power. However, the unsafe gear indications remained.

Another T-34 joined and reported that the first aircraft's main gear was down but that the nose gear was only partially extended. Lt. Dutcher talked to base maintenance and decided to try to raise the gear for a controlled gear-up landing.

After getting indications for three-up-and-locked, the crew orbited to burn down fuel and review procedures. They then made several practice approaches before making a gear-up landing on centerline with no injuries and minimal aircraft damage.

A postflight investigation revealed that an actuator rod for a faring had failed and jammed the nose gear.



Lt. Roger Dutcher. Ens. Harper had left VT-27 at the time of this photo.

BRAVO ZULU



Left to right: Ens. Michael D. Cobb, Lt. James M. Rossi

**Lt. James M. Rossi
Ens. Michael D. Cobb
VT-4**

Lt. Rossi and his student, Ens. Cobb, were on a PAR to NAS Cecil Field at about 800 feet AGL when Ens. Cobb reported he had problems with the controls. Lt. Rossi assumed control from the rear cockpit and determined that, although the flight controls were stiff and slow to respond, he could control the T-2.

Lt. Rossi declared an emergency and continued the approach, maintaining VMC. At approximately 200 feet, the aircraft began to roll to the right. The instructor quickly added maximum power and tried to level the wings using ailerons and rudder as the aircraft kept rolling past 60 degrees.

As the trainer descended to about 50 feet, both crewmen applied full left stick and partial left rudder. They were finally able to wave off and climb to 1,000 feet.

Ens. Cobb assumed control of communications, opened his NATOPS PCL and read procedures for a failure of the hydraulic boost for the flight-control actuator. Lt. Rossi continued flying the aircraft.

When Lt. Rossi indicated, Ens. Cobb secured the hydraulic boost but this action did not relieve the 60-70 pounds

of stick force Lt. Rossi needed to keep control. With the aircraft under control and configured for a no-flap approach to permit a faster approach speed and more flight-control authority, the crew tried a second approach.

Again at about 200 feet, the T-2 started a right roll. Fortunately, the crew had talked about this possibility and started a second waveoff.

After talking about ejecting, Lt. Rossi and Ens. Cobb decided to try once more to land, this time using a faster approach speed. With fuel now a factor, and with almost full-left aileron deflection and more than half rudder pedal deflection, they kept the wings level on their third approach.

This time, they landed without further incident. The cause of the problem turned out to be a hydraulic aileron actuator that had seized.

**Capt. John Mitchell, USMC
1stLt. Alan Greene, USMC
SSgt. William Miller, USMC
Cpl. Rodney Phipps, USMC
HMLA-369**

Capt. Mitchell and 1stLt. Greene were conducting a special insert-extract (SPIE) mission with a UH-1N. Five Marines were going into a zone on a 120-foot rope. After evaluating the landing zone (LZ), which was encircled

by 60-70-foot trees, the crew began their approach into known winds.

Not having been into this particular zone before, the crew decided to approach a little higher than normal. As Capt. Mitchell arrived over the LZ, at approximately 250 feet and 10 knots, a strong gust of wind hit the Huey from behind. The helicopter immediately lost tail-rotor effectiveness as well as main-rotor lift. The VSI showed an immediate 1,000-fpm descent.

Capt. Mitchell pulled maximum torque and Nr drooped, stopping the descent. Then the aircraft began an uncommanded right turn. 1stLt. Green read off Nr and torque values. SSgt. Miller (crew chief) and Cpl. Phipps (crew chief) called out altitude clearances on the Marines who were now about five feet above the trees.

NATOPS calls for lowering the collective and pushing the nose over to gain Nr and airspeed. However, this maneuver was impossible because of the five Marines on the rope.

Capt. Mitchell held the torque at 106 percent and gradually eased the nose forward. After 45 seconds, Nr and airspeed increased. Approximately one minute after the tailwind first struck, Nr was back to 100 percent and airspeed was back to 60 knots. Capt. Mitchell returned to NAS Cubi and landed.

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Left to right: 1stLt. Alan Greene, USMC; Cpl. Rodney Phipps, USMC; SSgt. William Miller, USMC; Capt. John Mitchell, USMC



And the Rocks Were Getting Bigger

By Ltjg. John Frederick Brabham

Our squadron provides logistic support to the National Science Foundation; specifically, we carry the scientists and all of their scientific gear into the field.

It was my second flight as mission commander on the frozen continent of Antarctica. The skies were clear with no ceiling, 60+ miles of visibility, and winds at home plate were about 15 knots – nothing new. Our mission
30 was to retrieve approximately 700 pounds of gear for a group of scientists who were studying the age of rock formations to try to establish a global climatic trend for the future.

We briefed in accordance with squadron SOP, especially fuel planning and turbulence. We had to retrieve the cargo from an LZ that was at the edge of our operating area, near the polar plateau (around 9,000 feet MSL). In such terrain, it is common to encounter severe orographic turbulence.

As the wind spills from the smooth surface of the polar plateau down over very rugged, mountainous terrain to sea level in less than 40 miles, it causes what is known as orographic turbulence. Winds in this area are often more than 40 knots. This can mean big problems for our little UH-1Ns.

I re-emphasized the procedures for turbulent flight techniques in mountainous terrain in accordance with squadron SOP and the Army Environmental Flight Manual, which we use because it provides a more com-

plete and useful description of flying in orographic turbulence than NATOPS or any other Navy publication.

After takeoff and climb to 9,000 feet MSL, I was pleased to have a tailwind at altitude to save fuel. Yet I was also relieved that it wasn't much of a tailwind; that meant less turbulence. I'd had a couple of scares in this area before as a copilot where we had encountered orographic turbulence and almost smacked the ground while on short final. There had already been several unsuccessful attempts to retrieve the gear in the past two weeks.

As we approached the LZ, the Global Positioning System (GPS) indicated that the LZ was in one of three small valleys, each about four miles long. In our operating area, the terrain is so rugged that often the GPS will

only get us to about four miles, and the terrain looks the same where the only contrast is black and white with very little grey. The Helicopter Duty Officer briefed us that the gear was on the floor of a valley in the area and covered with a tarp.

Winds in this area are often more than 40 knots. This can mean big problems for our little UH-1Ns.

Also, the pile might be partially covered with snow or surrounded by large boulders, making it even harder to spot; a search in the general area would be necessary.

I had been to the camp several weeks before, but I couldn't recognize any features. I would have to take an educated guess as to the camp location. We looked down onto the glacier near the valleys to see if we could deter-



mine wind strength and direction. The wind was really screaming along causing the snow to trail off in long lines known as snow snakes.

From the look of these snakes, the wind was more than 45 knots. The hair on the back of my neck snapped to attention. I chose the most downwind valley of the three valleys, as it looked the most familiar. The wind was going to be a direct crosswind to the ridge lines, the worst situation.

I went over the turbulence flight techniques one more time with the crew. I was doing my best to be calm and cautious. The ridges were about 1,000 feet high and almost sheer cliffs on each side, which combined with the winds, could mean heavy turbulence.

We entered the valley as we had briefed in the smoother upflowing air on the lifting side of the valley (the downwind side). Once inside the valley, we were

getting bumped around a little, but that was expected. Then, out of nowhere we were on an express elevator to the penthouse! Our VSI hit 3000+ FPM up and we lowered the collective slightly to manage the rate of ascent, which had no effect. Both my copilot and I were on the controls trying to get out of our present situation. The draft was just too strong.

Since the UH-1N has a flapping rotor system, I was doing everything possible to stay out of a mast-bumping situation. Just when we thought it couldn't get any worse, we felt the tail boom rise and the nose instantly pitch down to about 35 degrees. We moved the cyclic fully aft and added maximum power, with no result. Our airspeed quickly increased to near our NATOPS maximum with a 2,000-3,000 FPM descent. My copilot and I had a direct view of the ground, and the rocks were getting bigger, real fast.

Luckily, the swirl that caught us pulled us up before we hit the bottom of the valley and "tossed" our little UH-1N out of the valley into the calmer air.

After regaining our composure while doing some lazy 360s, we realized that we had gotten caught in orographic turbulence which must have come from the high winds and the unusual, rugged surface. It was similar to a surfer riding the crest of a wave while it breaks into the beach.

According to the Army Environmental Flight Manual, in mountainous terrain, "If a downdraft is encountered, full power should be applied and best rate-of-climb airspeed maintained. If the descent cannot be stopped, a turn should be made away from the feature causing it. An attempt should be made to maneuver downhill toward an area in the valley floor, while maintaining airspeed." Even the best briefs may not be complete enough to cover situations which are worse than anticipated, and Mother Nature may not help you out by following rules. In high winds, I now realize the importance of a thorough, even exhaustive, brief when going into known areas of orographic turbulence. A whole lot of luck doesn't hurt either.

Ltjg. Brabham flies with VXE-6.

"I Have Secondaries!"



By LCdr. J. Daigneau

32 **A** great det with two ACM hops a day. Beautiful Key West weather, and despite their age, our A-4s seemed to thrive on the fast pace. I had flown an ACM hop in the morning and was looking forward to a cross-country back to Oceana.

My aircraft, which had flown in the morning with no discrepancies, was ready. The takeoff and climbout were normal, but just as I leveled off at cruise altitude, the fire light illuminated. No other indications, no smoke, fumes, or bangs, just the FIRE light. I turned immediately back towards NAS Key West, now about 35 miles behind me. As I rolled out I brought the throttle to idle. The light went out, and I had my first sinking feeling that this might not be such a great day after all.

Nothing much happened for a minute while I established my glide. I declared an emergency and reviewed the PCL. I knew I would have to add some power to make the field, so I

inched the throttle up from idle. The fire light came back on almost immediately. I instantly returned the throttle to idle, but the fire light stayed on. Shortly after that, oxygen flow stopped abruptly. I activated my emergency oxygen supply and prepared for ejection.

Again, nothing happened for about a minute, and I began to think that maybe it wasn't that bad, and I'd be able to make the field. That forlorn hope was dashed when the utility hydraulic system light lit up.

I banked the aircraft and checked my mirrors for signs of smoke or flames. Seeing no evidence of fire and with the field only 15 miles away I thought that maybe my situation still wasn't that bad. I did tell the tower "I have secondaries", which was good for the tape, but not much else.

One minute later, I finally realized it was that bad. In fairly rapid succession the attitude gyro

started to tumble, acrid fumes entered the cockpit burning my eyes, and the control stick went stiff, signaling the loss of all hydraulic-control assist.

"Ejecting," I called, and pulled the lower handle. The catapult and rocket burn was not nearly as bad as I thought it would be. The wind blast at 280 KIAS, however, was far worse than I ever imagined. My left arm, which was not in proper position after I said I was ejecting, flailed and banged against the side of the seat. My HGU-33 helmet and mask, despite an excellent fit, were torn off as I left the cockpit.

The rustle of the parachute deploying and the moderate tug as the canopy inflated were two of the best sensations I've had in my entire life. Despite a dislocated shoulder I had no difficulty deploying my raft and preparing for water entry. I was concerned that I might not be able to get into my raft, but even with a bad shoulder, it wasn't a problem. A fishing boat was nearby, and within minutes I was on my way back to shore.

Just as all pilots do, I had mentally rehearsed countless ejection scenarios ranging from out-of-control to slow, level flight. I felt that I'd followed procedures well, but I still was not completely prepared for that final decision to pull the handle. Part of me was saying "You can see the field, you're almost there," while another part was screaming "You're on fire! Get out now!" Looking back I feel that if I had spent a few moments mentally preparing for the ejection I might have prevented my flail injuries. This includes getting into the proper position and reaching for the upper handle.

NATOPS really does work, and the survival training we receive is outstanding. But only the pilot can mentally prepare himself for ejection. ◀

LCdr. Daigneau flies with VFC-12.

The "Point"

By LCdr. Scott Skeate

No moon, a cloud deck at 25,000 feet and absolutely no horizon. My new pilot and I briefed for a close air support mission at a nearby Army range. Beacon bombing and shallow dives were the delivery maneuvers and we covered them in detail.

After the flight to the range, we reported in and received our CAS target brief. Although testing good on deck, the radar's beacon mode didn't work so we reverted to our backup shallow dive from medium altitude. The target was marked by a single fire and was hard to see even though the area was black as a bottomless pit.

During our third and final run, late target acquisition forced an abort. The FAC cleared us for an immediate reattack. The range sits in a wide valley. My pilot pulled around tight to keep the target in sight and, approaching the attack heading, rolled in. For me, it was a totally on-instruments delivery. There were no external cues to give any indication of attitude.

We rolled wings level, pointed at the target, looking good in a 20-degree dive. I started calling off altitudes in the descent and noticed we were dropping much faster than normal. I looked again and we were 40 degrees nose-down.

"Pull!" I screamed, and reached for the ejection handle. If I didn't feel G's immediately, it was time to get out. Fortunately, the G came on quickly—six G's, in fact—and we bottomed out at 800 feet above the ground. We didn't stop climbing until we reached FL210 in the restricted area and even then we really did not want to level off.

of Night Dives

Later, after we settled down, my pilot could only quietly mutter, "Thanks."

Night dives are difficult. There are none of the usual visual cues to let you know where in space you are located. Diving on a single-point night target in a black hole is even more dangerous because you can make the target appear at the same point on the canopy in many different dive-and-roll-angle combinations. With no other visual cues, you can make yourself believe everything is normal.

We learned a lot about diving on point targets that night. We had both read about the difficulties before, but had never experienced it. It is not an experience I want to try again. ◀

LCdr. Skeate is a BN with VA-95.

**"I FLEW FOR 10 YEARS AND
HAD ONLY ONE MISHAP!"**



